



COUNTY OF SAN DIEGO  
**Great Government Through the General Management System – Quality, Timeliness, Value**  
DEPARTMENT OF HUMAN RESOURCES

CLASS SPECIFICATION

CLASSIFIED

ELECTRICIAN ASSISTANT  
ELECTRICIAN  
SENIOR ELECTRICIAN

Class No. 006210  
Class No. 005920  
Class No. 005923

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■ CLASSIFICATION PURPOSE

To perform general electrical work involving the installation, maintenance, and repair of electrical devices and systems; and to perform related work as required.

■ DISTINGUISHING CHARACTERISTICS

This class series is distinguished by its responsibility to perform skilled technical work in installing, maintaining, and repairing electrical devices and systems within County-operated buildings and facilities.

Electrician Assistant:

This is the entry-level class in the Electrician series. Under immediate supervision, Electrician Assistants initially serve on a crew of electricians and receive on-the-job training on electrical concepts, theory, and practice. As knowledge of complex electrical concepts are acquired, incumbents progressively perform more responsible work pertaining to the installation, maintenance, and repair on electrical devices and systems.

Electrician:

This is the journey level class in the Electrician series. Under general supervision, Electricians are independently responsible for installing, maintaining, and repairing electrical devices and systems found in County-operated facilities and buildings.

Senior Electrician:

This is the lead level class in the Electrician class series. Under general direction, Senior Electricians are responsible for serving as a leader over a crew of Electricians/Electrician Assistants and performing the most difficult electrical projects involving the installation, maintenance, and repair of electrical devices and systems found in County-operated facilities and buildings.

■ FUNCTIONS

**The examples of functions listed in the class specifications are representative but not necessarily exhaustive or descriptive of any one position in the classes. Management is not precluded from assigning other related functions not listed herein if such duties are a logical assignment for the position.**

Electrician Assistant

Essential Functions:

1. Inspects electrical devices and systems located within an assigned zone of County buildings and facilities to ensure that such devices and systems are working properly and efficiently.
2. Identifies need for, or responds to requests for services and repairs to electrical devices and systems such as buildings, utility systems, signal and emergency systems, heavy equipment, and air-conditioning units; responds to calls for emergency services in response to electrical malfunctions that occur within or at county facilities and performs electrical maintenance and repair work.
3. Installs electric light and power circuits in buildings and utility spaces located county-wide; installs and maintains centrifugal water and sewer pumps; and installs and repairs special electro-mechanical machines and equipment such as liquid level indicators, gauges, resistors, electro-pneumatic sensors, windings, alarms and safety devices.
4. Trouble-shoots, adjusts and repairs motors, compressors, generators, and other electrical power apparatus.
5. Follows County and departmental, rules, regulations, policies, procedures, directives, and guidelines pertaining to working in a safe and efficient manner, identifying and preventing actual and potential occupational hazards, ensuring that work sites

are safe, and ensuring that vehicles, tools, materials, and equipment are safely and efficiently operated, maintained, and secured.

6. Inspects, maintains, and repairs tools, appliances, and equipment in accordance with preventive maintenance schedules and County or departmental directives and manufacturer's guidelines.
7. Disassembles and stores tools, materials, and equipment used to complete work projects; cleans work sites and areas surrounding work sites when concluding assigned work shifts or projects.
8. Maintains records and reports.
9. Provides responsive, high quality service to County employees by providing accurate, complete and up-to-date information in a courteous, efficient and timely manner.
10. Operates, diagnoses, maintains and troubleshoots Direct Digital Control (D.D.C.) Systems.
11. Inputs, retrieves, views, extracts, and prints information from the central Computerized Maintenance Management System (CMMS).
12. Assists in evaluating, recommending and implementing, new technologies and automated methods of energy conservation.

#### Electrician

##### Essential Functions:

All the functions listed above and

1. Serves as stand-by electrician and receives emergency requests to respond to incidents such as power outages or electrical system or equipment failure.
2. Responds to incidents by inspecting electrical systems and equipment and either repairing malfunctions or making arrangements for repairs depending on the complexity of the malfunction.
3. Prepares estimates pertaining to time, materials, and equipment needed for maintenance/repair projects.
4. Orders materials and supplies, and obtains, transports and sets up tools, materials, and equipment in preparing for maintenance and repair projects.
5. Inspects and maintains underground street lighting cables and conduits.
6. Identifies, diagnoses, and troubleshoots malfunctions and performs repairs to street lighting cables and conduits when necessary.
7. Inspects privately installed street lighting systems for compliance with county standards.
8. Prepares written reports documenting the progress of assigned work projects.

#### Senior Electrician

##### Essential Functions:

All the functions listed above and

1. Provides technical guidance and training to a crew of Electricians/Electrician Assistants.
2. Inspects worksites and electrical work projects from inception to completion to ensure that methods, techniques, and projects comply with electrical codes, theory, design, safety standards, and directions.
3. Coordinates work projects with County employees assigned to other craft areas or representatives of contracted or outside agencies.
4. Maintains daily assignment sheet and adjusts work schedules and assignments to ensure proper staffing coverage and to ensure that work assignments are completed.
5. May act in the absence of the assigned supervisor.
6. Consult with Project Managers, County Electrical Engineers, and contractors to manage various electrical projects.
7. Reviews and monitors contractors work to ensure compliance with electrical and other codes and job specifications.

## ■ KNOWLEDGE, SKILLS, AND ABILITIES

### Knowledge of:

The following apply to all classes:

- Electrical codes, theory, design, principles, and practices.
- Methods and techniques used to wire and install electrical equipment.
- Operation and use of tools, equipment, and materials used to install, maintain, and repair electrical devices, equipment, and systems.
- Methods and techniques used to inspect, diagnose, and troubleshoot electrical systems in buildings, utility systems, signal and emergency systems, heavy equipment, and air-conditioning units.
- Occupational hazards associated with performing electrical work and using tools and equipment and safety practices utilized when working in an electrical shop or in the field.
- Concepts pertaining to effective customer service when interacting with those contacted in the course of work.
- Basic operation and use of computers and software programs such as databases, word processing, spreadsheets, and electronic communications.

### Senior Electrician (in addition to the above):

- Principles and practices of lead work and training.

### Skills and Abilities to:

The following apply to all classes:

- Effectively and safely operate and use voltmeters, meggers, ammeters, voltage testers, and other modern electrical tools and equipment used to test, install, maintain, and repair electrical devices and systems found in buildings and facilities.
- Read, understand, follow, and accurately interpret construction blueprints, specifications, and plans including electrical wiring diagrams and schematics.
- Pay close attention to detail when installing, maintaining, and repairing electrical devices, equipment, and systems.
- Observe and accurately distinguish colors, identify color-coded electrical wires, and observe displays of electrical testing equipment.
- Follow verbal and written instructions accurately and correctly.
- Perform basic mathematical calculations accurately and correctly and be accountable for such calculations.
- Closely inspect electrical devices, equipment or systems for actual or potential damage or malfunction.
- Diagnose and troubleshoot malfunctions and damage found in electrical devices, equipment or systems.
- Determine accurate time estimates needed to complete work projects on electrical systems and accurately determine the type and quantity of materials, supplies, and equipment needed to complete such projects.
- Conduct work in a safe manner and ensure that work sites and surrounding areas are free of actual or potential hazards.
- Organize, prioritize, and complete a large volume of work within established timelines.
- Effectively communicate verbally in a clear, concise, and understandable manner.
- Communicate effectively in written form in order to prepare work progress reports.
- Establish and maintain rapport and effective working relationships with those contacted in the course of work.
- Apply an optimum level of customer service when interacting with co-workers, County employees from outside departments, representatives of outside agencies, and members of the public.
- Maintain accurate and complete records.
- Use modern office equipment, such as personal computers, calculators, copy machines, facsimiles, telephones, cellular phones, hand-held radios, and file cabinets in a safe and efficient manner.
- Drive vehicles issued by the County of San Diego to travel to work sites.

### Senior Electrician (in addition to the above):

- Direct, coordinate, and monitor the work of an assigned crew of Electricians/Electrician Assistants.
- Provide training and guidance to Electricians and Electrician Assistants.

## ■ EDUCATION/EXPERIENCE

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience are:

### Electrician Assistant:

1. Two (2) years of experience in a recognized electrician apprenticeship program, OR
2. One (1) year of experience installing, maintaining, and repairing electrical devices and systems.

#### Electrician:

1. Four (4) years of full time work experience as a contractor's assistant or equivalent position responsible for performing general electrical work involving the installation, maintenance and repair of electrical devices and systems. Previous experience must have included at least two (2) years of full time journey level experience performing skilled electrical work in a building trade or other trades.

**Note:** The possession of a current Electrical Contractors License issued by the State of California or other recognized state or regulatory agency is considered qualifying.

#### Senior Electrician:

Two (2) years of full time experience performing general electrical work involving the installation, maintenance and repair of electrical devices and systems; OR, two (2) years of full time experience as an Electrician for the County of San Diego.

**Note:** The possession of a current Electrical Contractors License issued by the State of California or other recognized state or regulatory agency is highly desirable. One (1) year of experience as a lead worker over a crew of electricians or as a lead worker over employees responsible for performing skilled crafts duties is a desirable qualification.

### ■ ESSENTIAL PHYSICAL CHARACTERISTICS

**The physical characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of the classifications. Reasonable accommodation may be made to enable an individual with qualified disabilities to perform the essential functions of a job, on a case-by-case basis.**

Frequent: simple-to-power grasping with both right and left hands to lift and carry light to heavy tools, materials, supplies, equipment and other objects weighing up to 50 pounds and occasionally up to 70 pounds; reaching above and below shoulder level to inspect, install, maintain, and repair electrical systems; fine finger dexterity to operate testing equipment, small tools, and computer keyboards and writing materials; pushing and pulling heavy equipment, materials, and supplies; standing, bending, stooping, crawling, climbing, and twisting of waist; side-to-side turning of neck and continuous upward and downward flexion of neck. Occasional: climbing and conducting work from ladders or in areas of extreme heights when inspecting, repairing, and maintaining streetlights and electrical devices and systems outdoors and indoors.

### ■ SPECIAL NOTES, LICENSES, OR REQUIREMENTS

#### License

A valid California Class C driver's license, which must be maintained throughout employment in this class, is required at time of appointment or the ability to arrange necessary, timely transportation for field travel. Employees in this class may be required to use their personal vehicle.

#### Certification/Registration

None Required.

#### Working Conditions

Work takes place primarily in the field when performing electrical work indoors and outdoors. Incumbents are assigned to perform electrical work within a wide variety of County facilities, such as detention facilities, hospitals, wastewater plants, garages, and office buildings. When assigned to conduct electrical work in detention facilities, hospitals, or clinics, incumbents may have brief and direct exposure to inmates and/or patients on a frequent basis. Work involves exposure to heights, loud machine noises, adverse weather conditions, dust, fumes, electrical currents, flammable materials, and sharp edges; moving around in confined or cramped spaces that may have extreme temperatures and asbestos. Work may involve call back and overtime during evenings, weekends, and holidays to respond to electrical malfunctions and make emergency repairs on electrical systems, devices, or other components.

#### Background Investigation

Must have a reputation for honesty and trustworthiness. Misdemeanor and/or felony convictions may be disqualifying depending on type, number, severity, and recency. Prior to appointment, candidates will be subject to a background investigation.

#### Probationary Period

Incumbents appointed to permanent positions in these classes shall serve a probationary period of six months (Civil Service Rule 4.2.5).

**New: October 21, 1970 (006210)**  
**New: November 16, 1959 (005920)**  
**New: December 29, 1983 (005923)**  
**Reviewed: Spring 2003**  
**Revised: May 3, 2004**  
**Revised March 31, 2006**  
**Revised May 15, 2006**  
**Revised: July 2006**

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Union Code: CR	Variable Entry: Y
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